Application User Manual

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USER'S GUIDE FOR ISL29177 SENSOR APPLICATION

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03 June 2014	A2 (1.0.0.2)	VVDN_ISLU_SNSR_ISL29177_APP_MANUAL_1.0.0.2	Sanoj & Nikhil
23 May 2014	A1 (1.0.0.1)	VVDN_ISLU_SNSR_ISL29177_APP_MANUAL_1.0.0.1	Sanoj & Nikhil

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1 Introduction

This Application manual explains the features and usage of "Light Sensor ISL29177 Application" which is developed by VVDN Technologies for Intersil Corporation.
This application will be used for isl29177 light sensor during final production, for Windows XP/7/8/8.1 platform.

1.1 Feature:

1. View continuous proximity count as well as proximity ambir count from the light sensor.
2. Configure Light sensor for 5 different proximity sleep values
    a. 400 ms
    b. 200 ms
    c. 100 ms
    d. 50 ms
    e. 25 ms
3. Configure sensor for PROX LED driving current in two ways.
    a. For ISL29177 :
        - 3.6 mA
        - 7.1 mA
        - 10.7 mA
        - 12.5 mA
        - 14.3 mA
        - 15 mA
        - 17.5 mA
        - 20 mA
    b. For ISL29167 :
        - 50 mA
        - 75 mA
        - 100 mA
        - 120 mA
        - 150 mA
        - 175 mA
        - 200 mA
        - 225 mA
4. Configure Light sensor for 4 different proximity persistency values.
    a. 1 Conversion data
    b. 2 Conversion data
    c. 4 Conversion data
    d. 8 Conversion data
5. Configure the minimum and maximum interrupt threshold of light sensor.

6. Directly access to three different modes.

    a. Customer mode
    b. Register mode
    c. Engineering mode

7. Offline help for using the application

2 Modifications

1. Application works for both devices ISL29177 as well as ISL29167.
2. Configure Prox LED driving current selection for both ISL29177 and ISL29167 Light sensors.
3. Add software Reset functionality on Customer mode.
4. Capture Sample as 100/500/1000 as customer choice.
5. Adjust samples depends on time interval chooses by customer.
6. Resolve privilege issue, we can install application anywhere in hard drive.
7. We can read/write any particular register without any issue in both register and engineering mode.
8. Assign the value (follow a specified format) in all register through **open file**.

3 Installing the Application

This application is developed to be deployed on Windows xp/7/8/8.1 platform. Necessary updates and software upgradations will be provided for the same in final release with concern to Intersil feedbacks.

Note: Make Sure you have already installed .Net framework version 4.0 or higher on your machine if it is not present.

3.1 Installation files

This archive contains following subdirectories that has the application packages for the following computer architectures.

1. Exe file
2. Config file

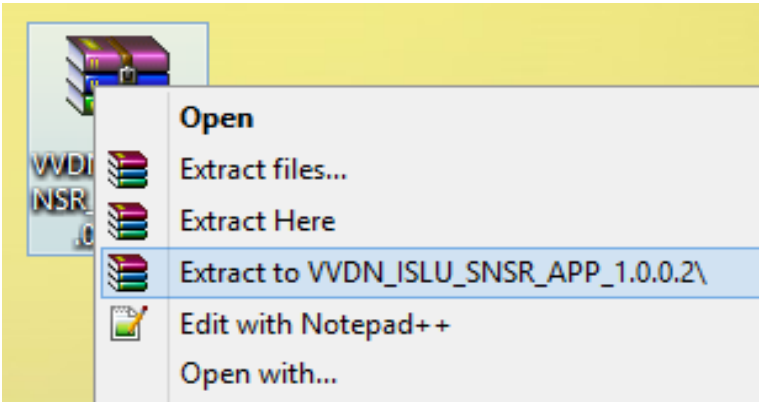
3.2 Installation procedure

3.2.1 Extracting the files

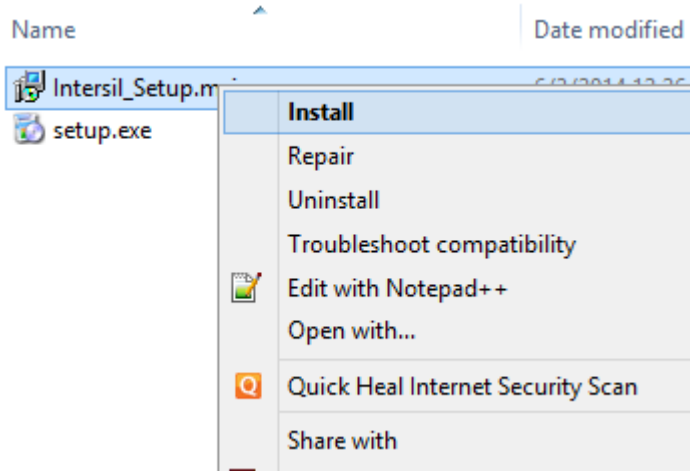
- Log onto host computer running Windows operating system, using an account with local administrator privileges.

- Copy the application package archive (VVDN_ISLU_SNSR_APP_1.0.0.2.zip) to anywhere in the hard disk.

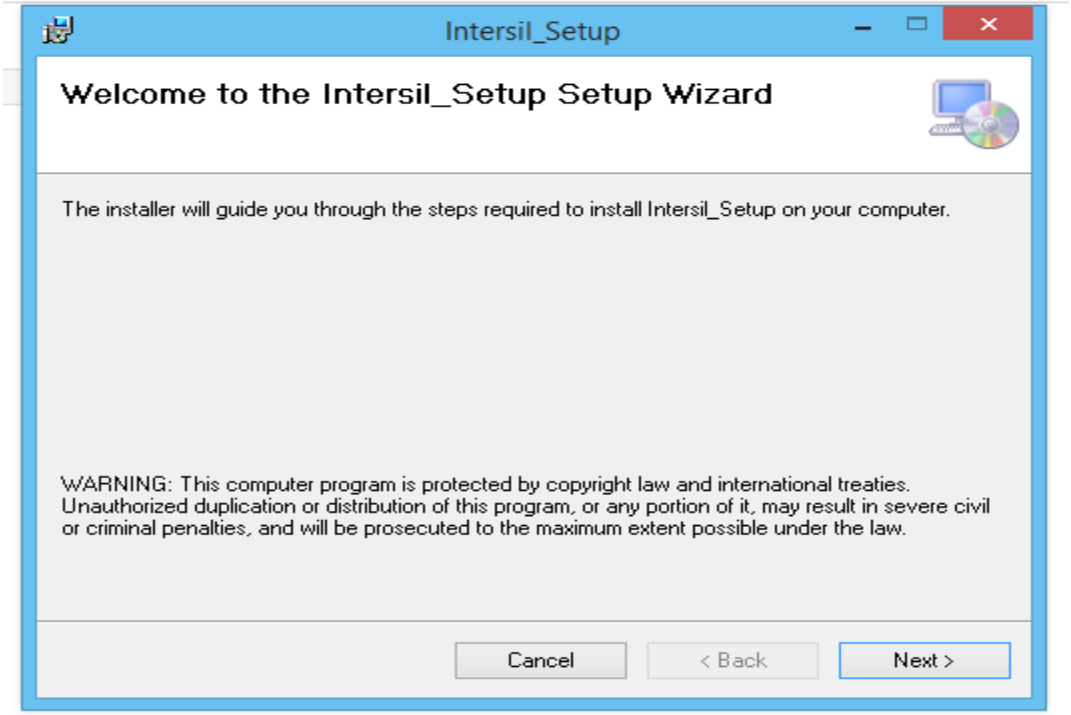
- Open the appropriate subdirectory as per the host computer architecture.

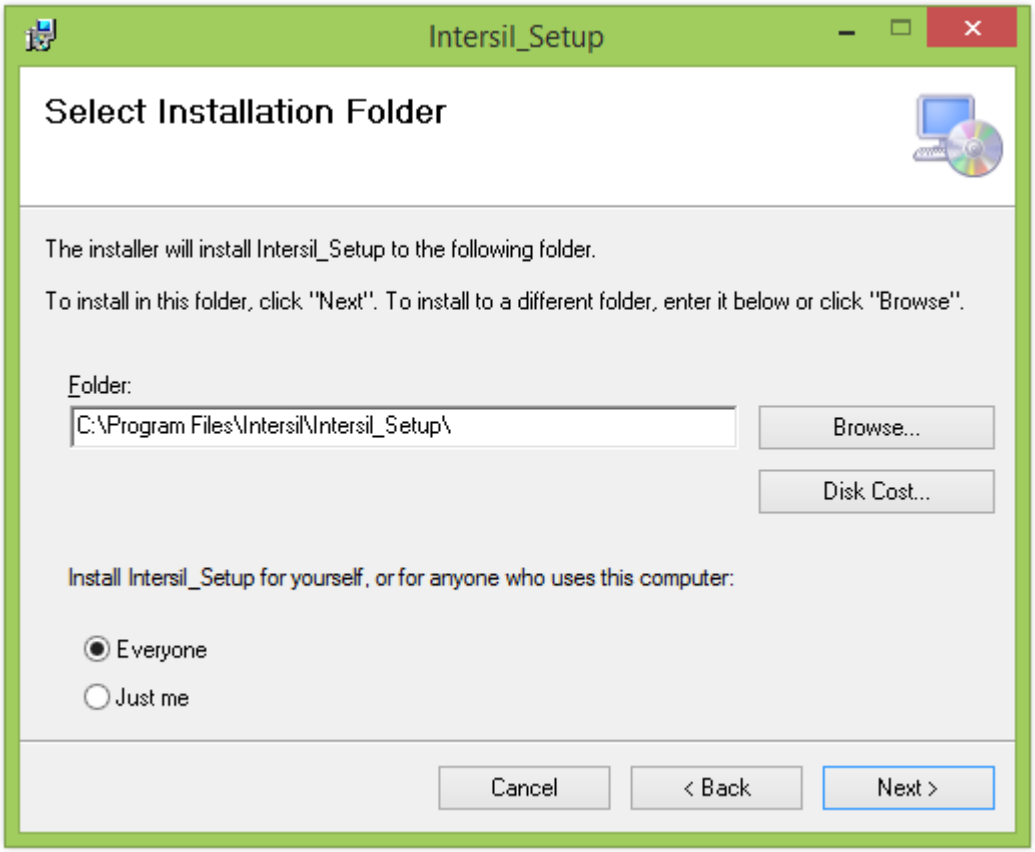


- Install the Application

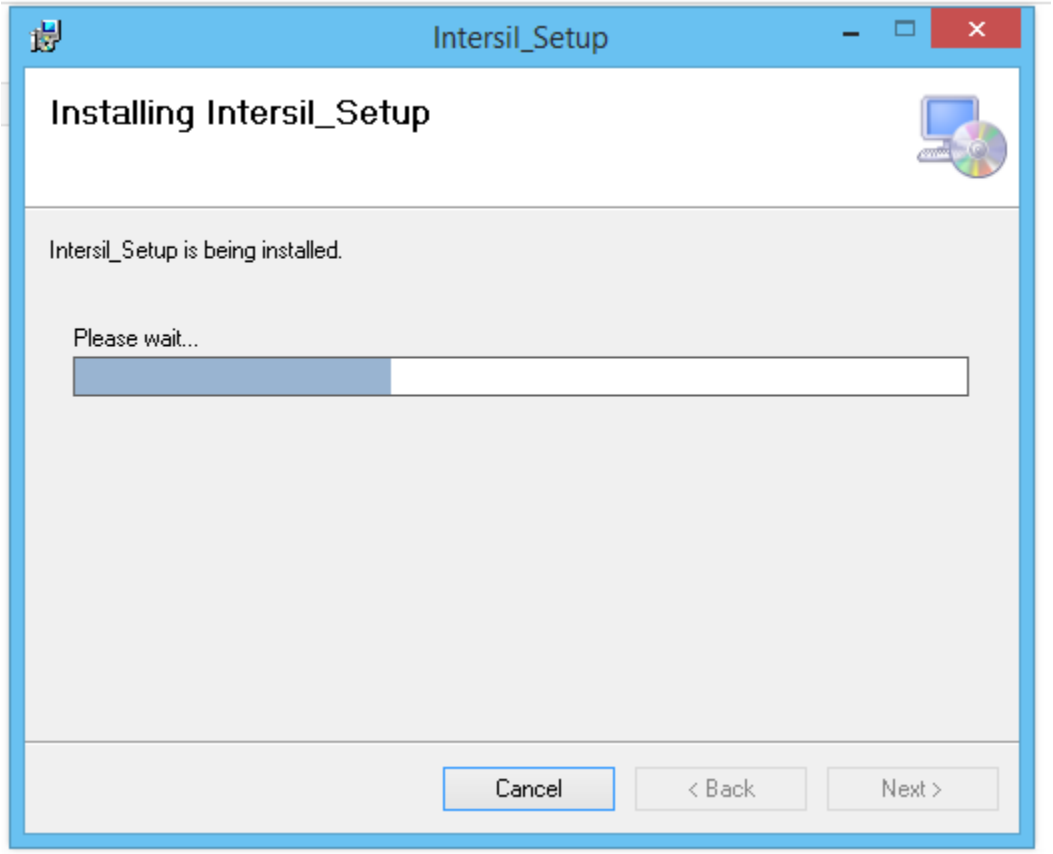


- Press the Next button to continue installation.

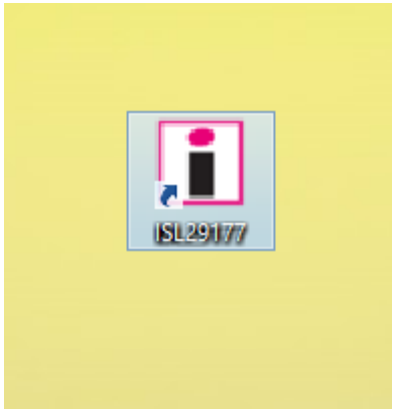




- choose the appropriate path where we want to install the application.
-

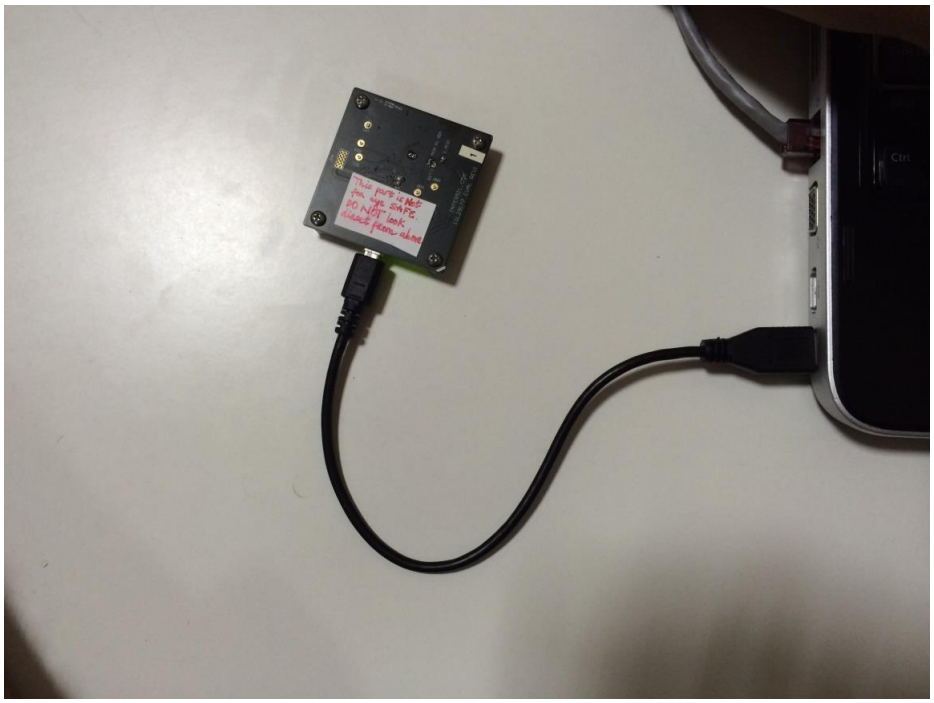


- After successful installation user should be able to find the application tile on the Start screen. Click on the application tile to run it.



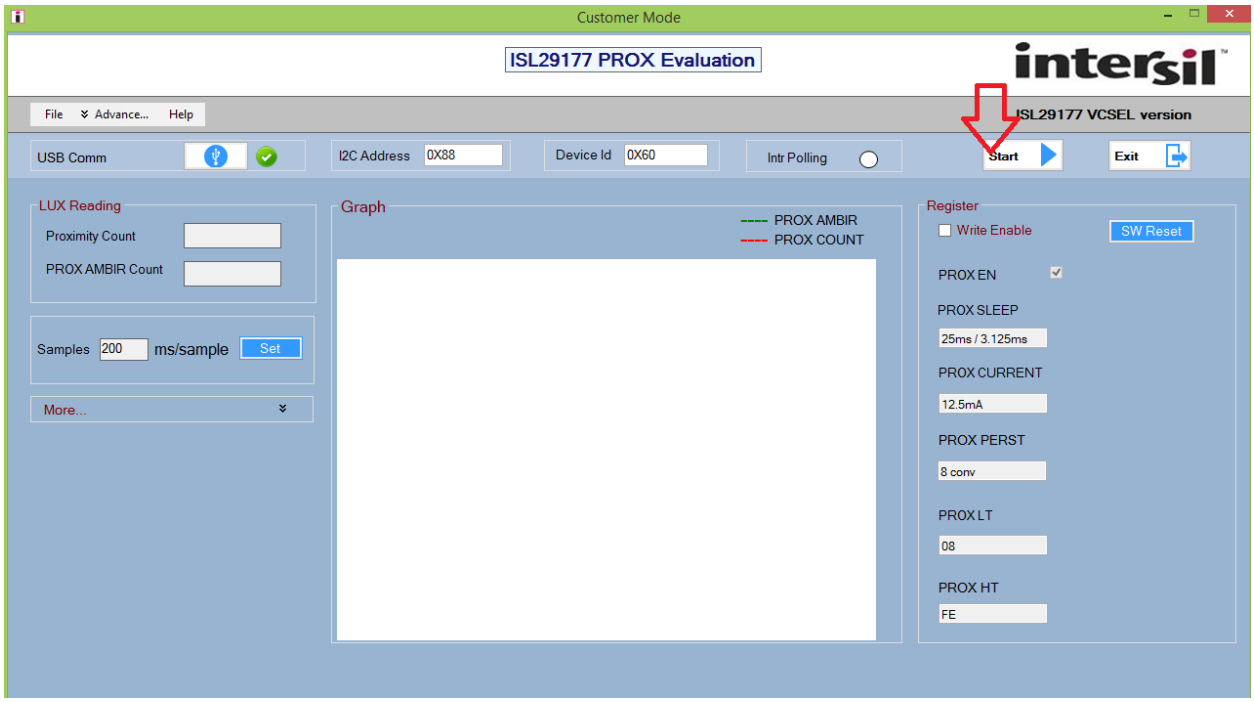
4 Using the Application

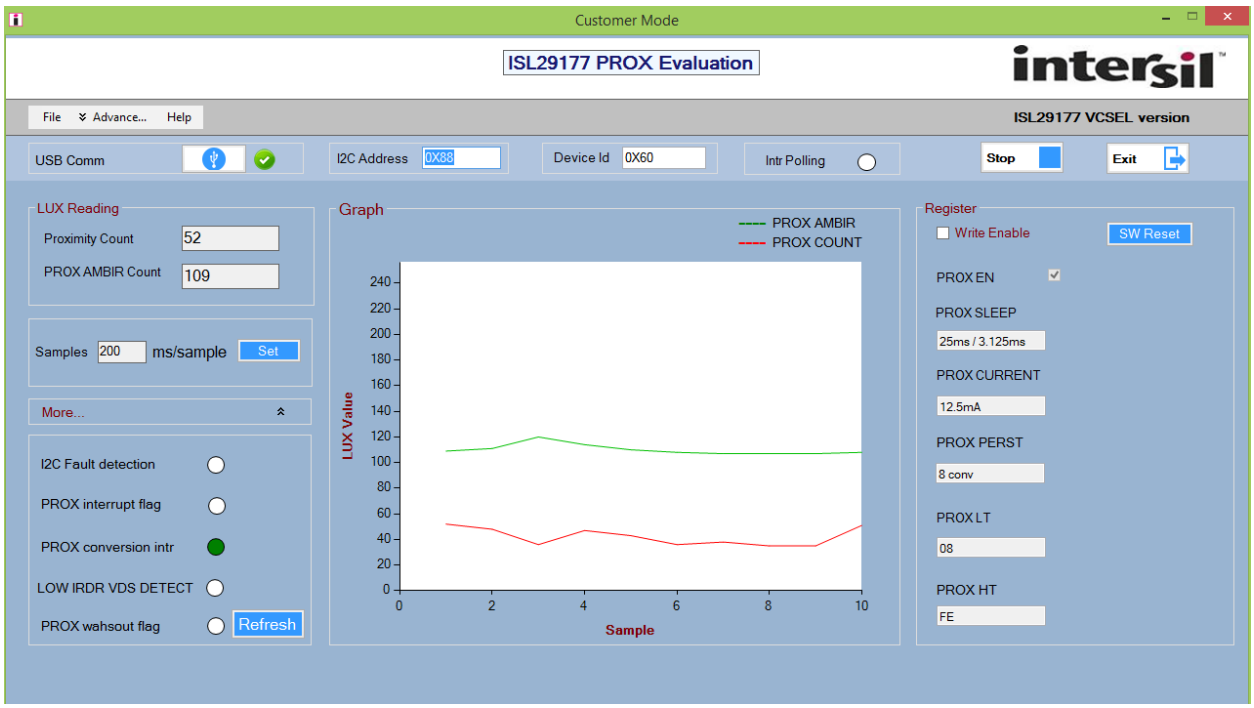
- Now Select the Sensor devise as ISL29177 and connect your sensor board with your running machine and press the connect application



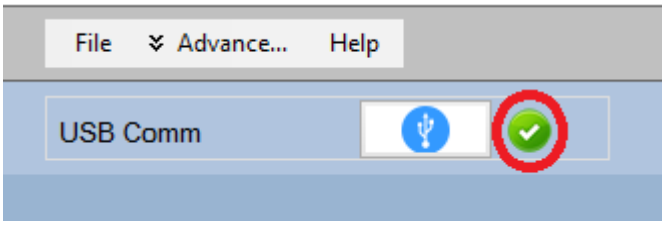
- Press connect button to run the application.

- The below image is your Customer mode configuration. You can easily see your lux reading on the graph by pressing START button which is indicate through red arrow in below image.

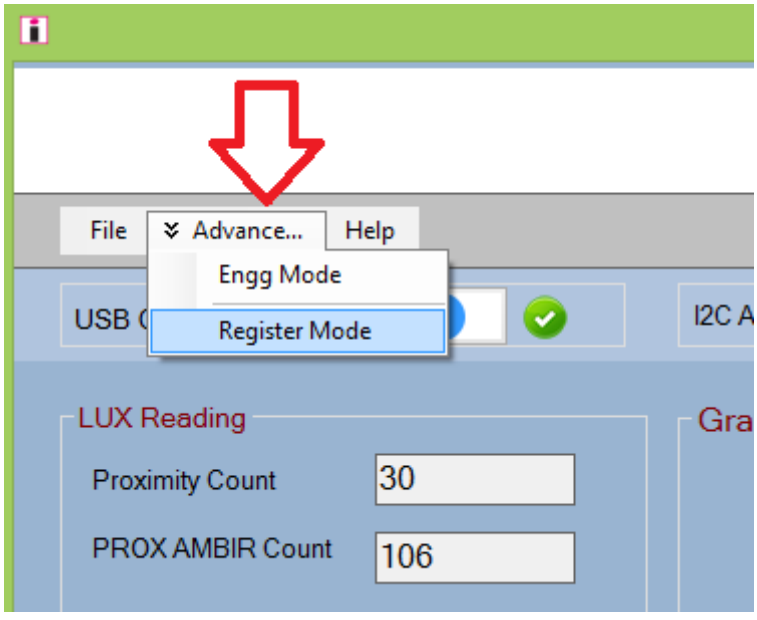




- The right tick in Red circle shows that the sensor device connection status.



- User can Enter the Register mode or Engineering mode by selecting the advanced option.

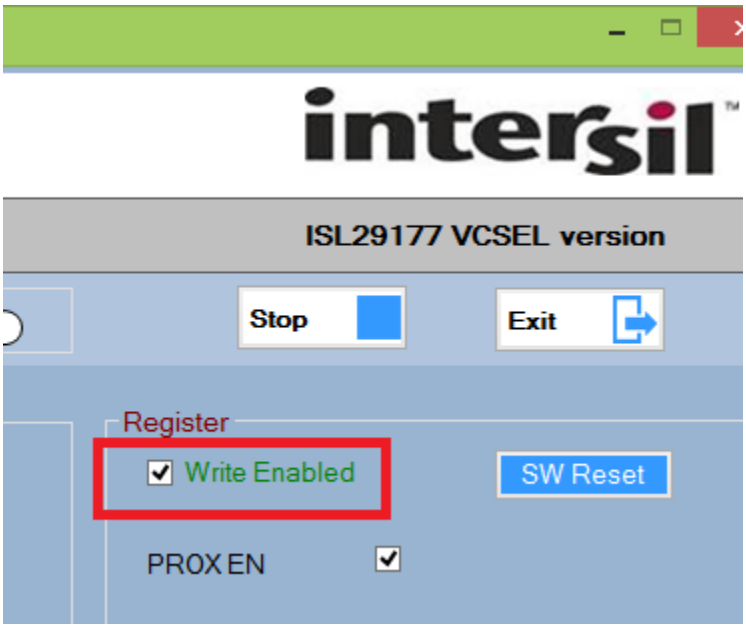


- After Selecting Register mode we will get the below screen

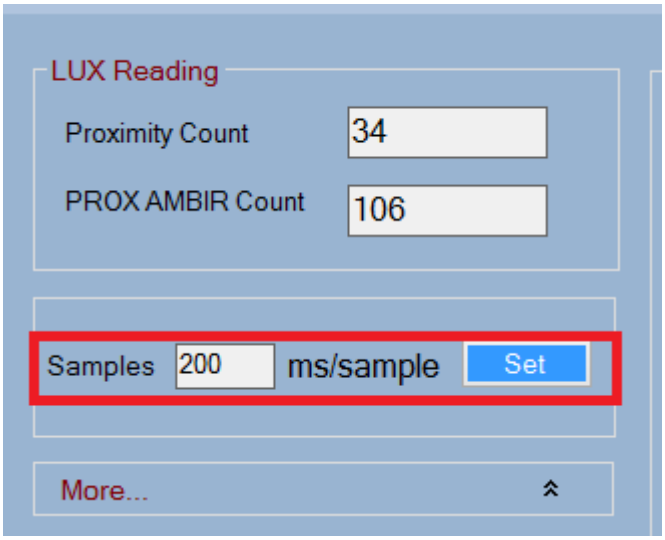
5 Set the configuration

5.1 Customer Mode:

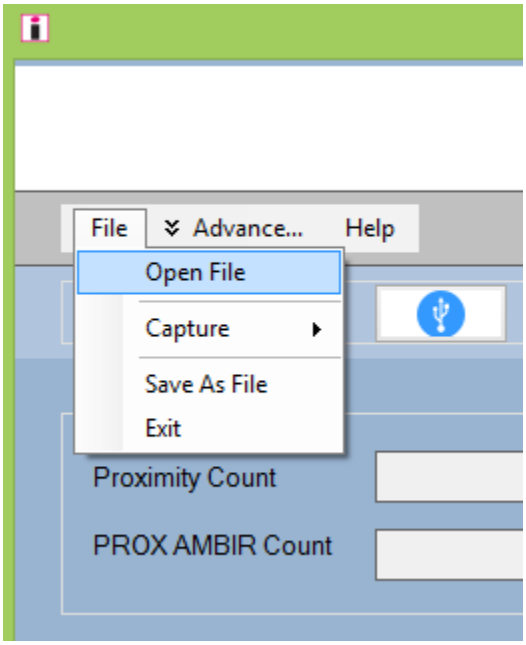
- Tick the write Enable button to enable the register write operation display on customer mode.



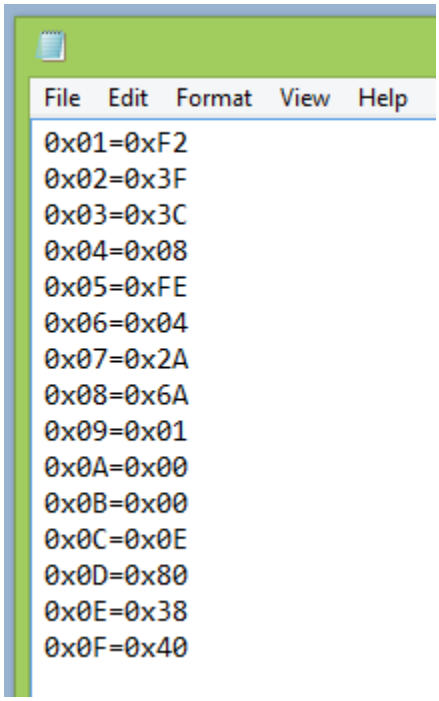
- We can also set the Samples polling delay (like 100ms/200ms/500ms) according to the requirement.



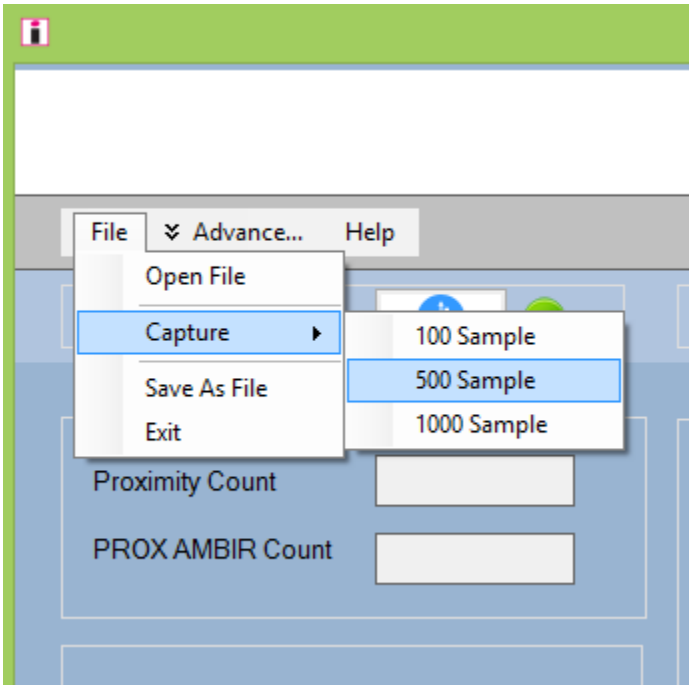
- We can directly assign the values to registers include a text file using open file (followed by a specific format).



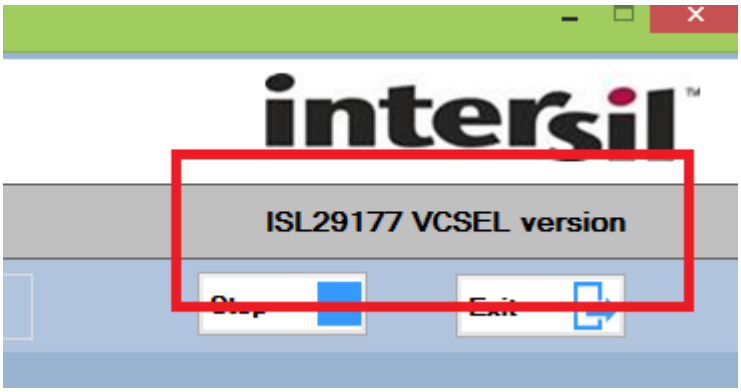
- Specified Format are shown below as a .txt file



- User can capture the sample like 100/500/1000 and keep it in a file.



- Highlighted rectangle shows the which device you connected.it can be ISL29177 or ISL29167.



5.2 Advanced (Register) Mode:

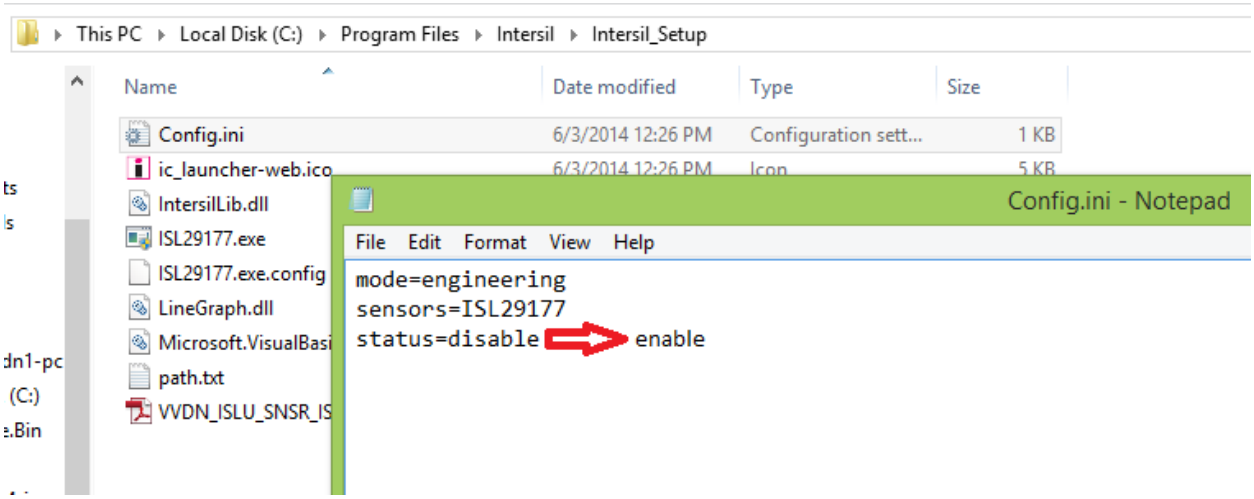
- We can read and write particular register and read all the register values at once.

5.3 Engineering Mode:

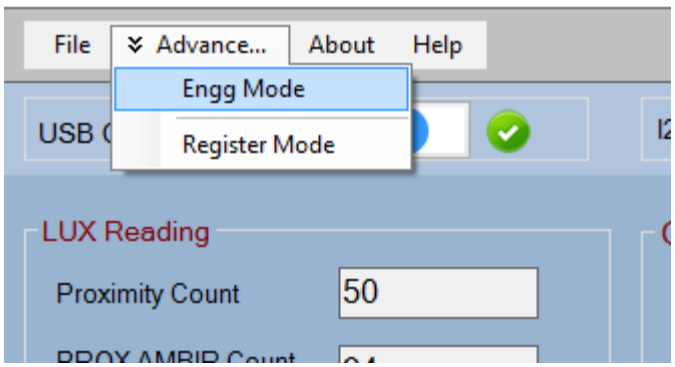
- It's a restricted mode only for Intersil personnel. It will enable only when we will enable it by going through config.ini file
- We can find this file where the setup is installed.by default we can get it

  C:\Program Files\Intersil\Intersil_Setup

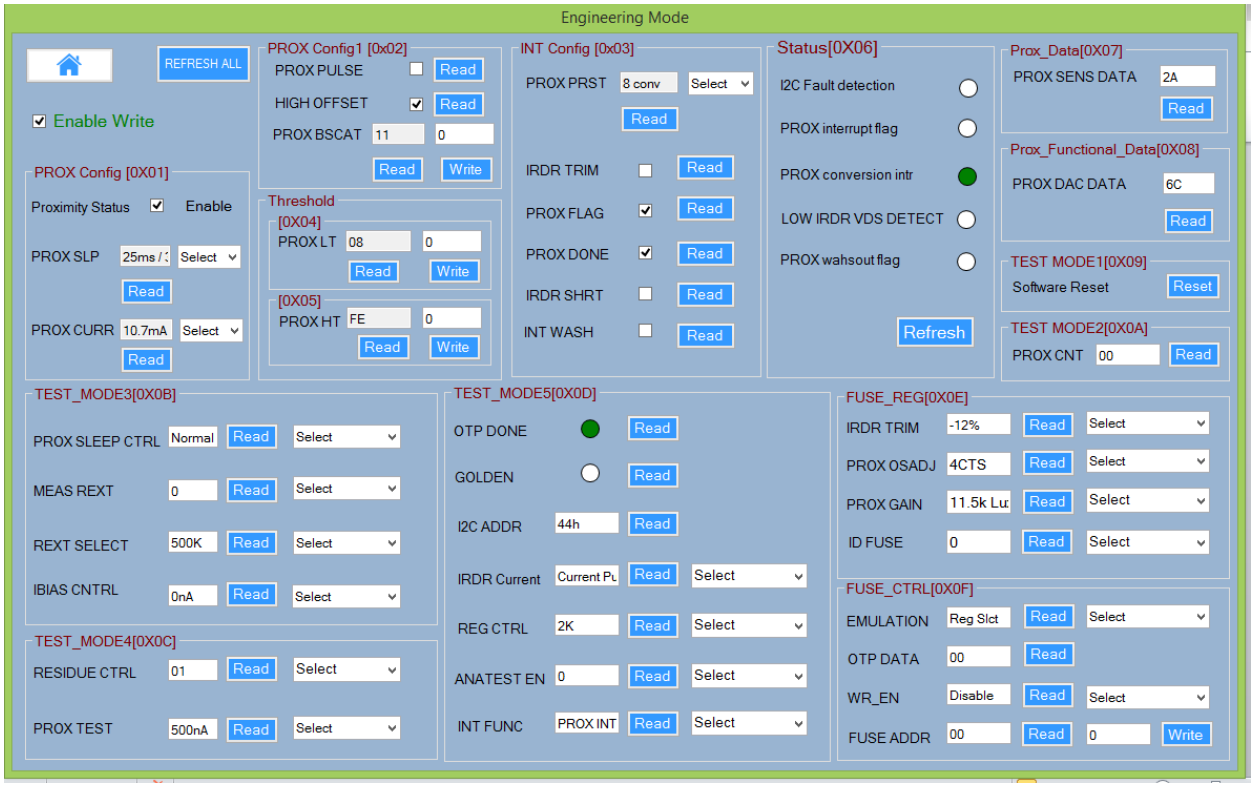
  - Select Config.ini file
  - Make status **enable** from **disable** in order to enable the engineering mode



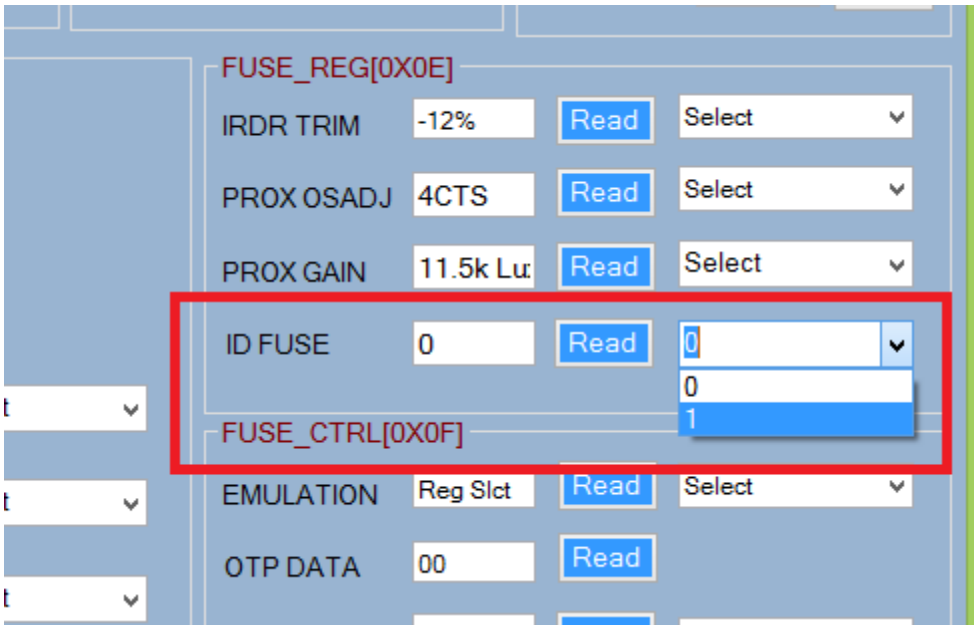
- Now Select the Engineering mode from the Application.



- We can configure the particular bits of separate Engineering mode registers by selecting ENABLE WRITE.



- We can change the device selection ISL29177 to ISL29167 by changing the ID Fuse bit 0 to 1 respectfully and get the functionality of the ISL29167 device.



- We can observe this difference on the front screen in customer mode.